METHODS FOR ACHIEVING RELIABLE JOINS
IN A MULTICAST IP NETWORK

ABSTRACT OF THE DISCLOSURE

5   Methods are described that enable host devices of a multicast IP network to reliably join multicast group address(es) in talkgroup or point-to-point calls. For a talkgroup call, a sourcing host sends "hello" packets or payload to one or more network devices, addressed to a multicast group address. The receiving host issues a join command to the one or more network devices in an attempt to

10   reliably join the multicast group address. If any packets are received by the receiving host within a designated time period associated with the attempt, the receiving host is reliably joined to the multicast group address. For a point-to-point call, a controller sends a pair of multicast group addresses, one designated for sourcing packets and the other designated for receiving packets, to a first and

15   second host participating in the point-to-point call. The designated "source" and "receive" multicast group address are complementary for the first and second hosts. When the first or second host is acting as a source, it sends hello packets or payload addressed to its designated "source" multicast group address. When the first or second host is acting as a receiver, it attempts to join its designated

20   "receive" multicast group address. The first or second host acting as a receiver knows that it is reliably joined to its designated "receive" multicast group address if it receives any packets addressed to that address within a designated time period.

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